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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,195	08/18/2003	Chao-Shih Huang	ACR0084-US	1092

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Michael D. Bednarek
SHAWPITTMAN
1650 Tysons Boulevard
McLean, VA 22102-4859

EXAMINER

CHAWAN, SHEELA C

ART UNIT	PAPER NUMBER
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2624

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10/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,195	HUANG, CHAO-SHIH	
	Examiner	Art Unit	
	Sheela C. Chawan	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 8/3/07 has been entered and made of record.
Claims 1-20 are pending in the application.

Response to Arguments

2. Applicant's arguments filed on 8/3/07 have been fully considered but they are not persuasive.

In the remark, applicants have argued in substance that

1. Bellegarda is mainly used in recognizing English, it would not be useful in recognizing Asian Languages such as Chines, Korean and Japanese and so on.

Therefore, Bellegarda is not an appropriate tool for recognizing Asian languages.

2. Bellegarda fails to teach or suggest displaying the plurality of candidate alphanumeric symbols.

In the reply, the examiner states the following.

As to point 1, applicant's arguments regarding independent claim 1, have been fully considered with respect to the art rejection, the examiner has carefully considered applicant's argument, but firmly believes the cited reference to reasonably and properly meet the claimed limitation. The examiner does not agree with the remarks that Bellegarda reference discloses recognition method and apparatus that integrates handwriting and speech or vocal recognition. Bellegarda cannot be said to suggest " Chines, Korean and Japanese and so on. Therefore, Bellegarda is not an appropriate tool for recognizing Asian languages". There is nothing in the claim that defines or refers

to Chines, Korean, Japanese or Asian languages. The Bellegarda reference is relied upon to provide these features as recited in the claims such as " recognition method and apparatus that integrates handwriting and speech or vocal recognition. Claim language does not recite a "Chines, Korean, Japanese or Asian languages. However, applicant is reminded that the claim language is given its broadest reasonable interpretation.

As to point 2, the examiner does not agree with the remarks. Therefore, Bellegarda does teach this limitation. Bellegarda discloses an automatic message recognition system where a user's speech (acoustic) and handwriting (stroke) is converted to a first signal and the second signal. The first and the second signals are conveyed jointly or separately by the two signals here a message is considered to be information generated by a human subject and entered into the system 10. which includes a user interface 12 coupled to display terminal 14 for displaying information to a user of the system 10 (fig 1), column 5, lines 26- 28, 35- 40, column 11, lines 54- 67, column 12, lines 1- 57). However, applicant is reminded that the claim language is given its broadest reasonable interpretation. There is nothing in the claim that defines or refers to Asian language .

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4-12, 14- 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Bellegarda et al., (US. 6,285,785 B1, Listed in IDS filed on 5/3/04).

As to claim 1, Bellegarda discloses a method of integrating vocal input recognition and handwriting input recognition (abstract, column 5, lines 35- 40) comprising the steps of:

receiving a syllabic (note, syllabic corresponds to speech or voice) vocal signal representing an object alphanumeric symbol (fig 1, element 22, column 5, lines 35-40, note, a user interface having a first input coupled to an output of a speech transducer and a second input coupled to an output of a handwriting transducer for receiving signals therefrom and for converting the signals to a first multi-dimensional representation of a speech signal and to a second multi-dimensional representation of a handwriting signal . A first transducer for converting a user's speech to a first signal and a second transducer for converting the user's handwriting or a second signals);

recognizing the input syllabic vocal signal and generating an alphanumeric symbol array having a plurality of candidate alphanumeric symbols corresponding to the object alphanumeric symbol (column 5, lines 14- 24, 34- 40);

displaying the plurality of candidate alphanumeric symbols (fig 1, 14, column 5, lines 26- 28, 35- 40, column 11, lines 54- 67, column 12, lines 1- 57).

receiving an input handwriting signal representing a feature of the object alphanumeric symbol (fig 1, element 20, column 5, lines 35- 40); and

extracting a most coincidental candidate alphanumeric symbol from the plurality of candidate alphanumeric symbols corresponding to the feature (column 6, lines 45- 63, column 5, lines 14- 24, and 34- 40).

As to claim 2, Bellegarda discloses the method of claim 1 wherein the input handwriting signal is a substructure of the object alphanumeric symbol (fig 3).

As to claims 4, Bellegarda discloses the method of claim 1, further comprising displaying most frequently utilized candidate alphanumeric symbols of the alphanumeric symbol array before receiving the input handwriting signal (column 6, lines 1-44).

As to claim 5, Bellegarda discloses the method of claim 4, further comprising to replacing the most frequently utilized candidate alphanumeric symbols with the most coincidental candidate alphanumeric symbol of the alphanumeric symbol array (column 6, lines 1-44).

Regarding claim 6, argument analogous those presented for claim 1 are applicable to claim 6, as discloses by Bellegarda detecting if there exists a second input, then extracting a most coincidental candidate alphanumeric symbol from the plurality of candidate alphanumeric symbols based on the feature represented by the second input , wherein the first input is one of a vocal input and a handwriting input,

and the second input is the other of the vocal input and the handwriting input (column 11, lines 65-67, column 12, lines 1-4 and 10-19).

As to claim 7, Bellegarda discloses the method of claim 6 further comprising receiving the first input and then converting the first input into a first signal and receiving the second input and then converting the second input into a second signal (abstract, note, first signal corresponds to speech, fig 1, element 22, abstract, note, second signal corresponds to handwriting, fig 1, element 20).

As to claim 8, Bellegarda discloses the method of claim 6 further comprising extracting a feature of the first input from the first signal; and extracting the feature of the second input from the second signal (note, the first and second signal are processed to decode a consistent message conveyed separately by the first and second signal (fig 1, 44, column 3, lines 63- 67, column 4, lines 1- 3), speech sample being processed to obtain a feature vector by the determination of amplitudes associated with a plurality of frequency bands, (fig 4c, column 6, lines 46-50, column 11, lines 11-19), handwritten character being processed to generate a feature vector based on the electronic tablet for the handwriting in which transducer typically acquired points by collecting a plurality of spatial attributes per second (fig 4b). The sampled handwriting is applied to an associated handwriting feature vector is a set of characteristics of the input accumulated during a specific time interval. Processor generates one or more handwriting feature vector for each input stroke (column 6, lines 26- 45), collecting a plurality of spatial attributes (fig 4b).

As to claim 9, Bellegarda discloses the method of claim 6 further comprises extracting a most frequently utilized candidate alphanumeric symbol from the alphanumeric symbol array where the second input does not exist (column 6, lines 46-50, column 11, lines 11-19).

As to claim 10, Bellegarda discloses the method of claim 9 further comprising displaying the most frequently utilized candidate alphanumeric symbol (column 14, lines 32-40).

As to claim 11, Bellegarda discloses the method of claim 6 further comprises displaying a candidate alphanumeric symbol in accordance with the alphanumeric symbol (column 5, lines 41- 53, column 8, lines 36- 58, column 10, lines 25- 31, column 11, lines 65- 67, column 12, lines 1-5).

Regarding claim 12, argument analogous those presented for claims 6 and 8 are applicable to claim 12, as discloses by Bellegarda (a vocal similarity estimator for generating an alphanumeric symbol array having a plurality of candidate alphanumeric symbols corresponding to the object alphanumeric symbol according to the first signal; a handwriting similarity estimator for extracting a most coincidental candidate alphanumeric symbol from the plurality of candidate alphanumeric symbols, fig 2, column 12, lines 5-35, lines 58-68).

As to claim 14, Bellegarda discloses the recognition system of claim 12 further comprising a vocal database storing a plurality of vocal patterns, the vocal patterns being provided for the vocal similarity estimator to map with the first signal and

generate the alphanumeric symbol array (column 7, lines 6- 29, column 8, lines 36- 58).

As to claim 15, Bellegarda discloses the recognition system of claim 12 further comprising a vocal feature extractor for extracting the characteristic of the vocal input from the first signal and transmitting the characteristic to the vocal similarity estimator (column 7, lines 6- 29, column 8, lines 36- 58).

As to claim 16, Bellegarda discloses the recognition system of claim 12 further comprising a handwriting database storing a plurality of handwriting patterns, the handwriting patterns being provided for the handwriting similarity estimator to map with the second signal and to extract the most coincidental candidate alphanumeric symbol (column 8, lines 13-58)

Regarding claim 17, argument analogous those presented for claims 6 and 8 are applicable to claim 17, as discloses by Bellegarda (a first similarity estimator for generating an alphanumeric symbol array having a plurality of candidate alphanumeric symbols corresponding to the object alphanumeric symbol by the first signal (column 12, lines 6-11, 24- 35);

a display for displaying the plurality of candidate alphanumeric symbols, wherein the plurality of candidate alphanumeric symbols are displayed in an order according to individual frequent usage rates of the plurality of candidate alphanumeric symbols (Bellegarda discloses an automatic message recognition system where a user's speech (acoustic) and handwriting (stroke) is converted to a first signal and the second signal. The first and the second signals are conveyed jointly or separately by the two

signals here a message is considered to be information generated by a human subject and entered into the system 10. which includes a user interface 12 coupled to display terminal 14 for displaying information to a user of the system 10 (fig 1), column 5, lines 26- 28, 35- 40, column 11, lines 54- 67, column 12, lines 1- 57).

a second similarity estimator for extracting a most coincidental candidate alphanumeric symbol from the alphanumeric symbol array according to the second signal (column 12, lines 6-11, 24- 35).

As to claim 18, see the rejection of claim 12 above.

As to claim 19, see the rejection of claim 17 above.

Regarding claim 20, argument analogous those presented for claim 1 is applicable to claim 20, as discloses by Bellegarda a computer accessible recording medium comprising a plurality of programming codes for executing the following step: (note, recording medium is part of the component system which includes the data input (receiving) components via microphone and handwriting reading device and data storage id the computer memory, these are all the components of the device and method described by algorithm is a program or steps to perform a given process by the computer, column 6, lines 46- 63).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellegarda et al., (US. 6,285,785 B1, Listed in IDS filed on 5/3/04), as applied to claims 1-2, 4-12, 14- 20 above and further in view of Van Kleeck (US. 6,539,113 B1).

Regarding claim 3, Bellegarda discloses message recognition method and apparatus that integrates handwriting recognition and speech recognition. Bellegarda is silent about wherein the substructure of the object alphanumeric symbol is the radical of the object alphanumeric symbol.

Van Kleeck discloses radical definition and dictionary creation for a handwriting recognition system. The system comprises of:

wherein the substructure of the object alphanumeric symbol is the radical of the object alphanumeric symbol (column 4, lines 1-14, column 6, lines 28- 33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Bellegarda to include wherein the substructure of the object alphanumeric symbol is the radical of the object alphanumeric symbol (column 4, lines 1-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Bellegarda by the teaching of Van Kleeck in which radical recognition systems have attained higher accuracy in recognition Kanji character over a systems to reduced the amount of data that must be stored when performing Kanji character recognition (as suggested by Van Kleeck at column 1, lines 55- 59).

5. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela Chawan
Patent Examiner
Group Art Unit 2624
October 11, 2007


SHEELA CHAWAN
PRIMARY EXAMINER